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ART. XIV.—*Report on Eighty Cases of Chorea.* By GEORGE S. GERHARD, M.D., Physician to the Orthopædic Hospital and Infirmary for Nervous Diseases, and Assistant Physician to the Children's Hospital, Philadelphia.

IN the *Philadelphia Medical Times* of January 3, 1874, I published a digest of thirty cases of chorea, which was of interest not only on account of its having been the first of the kind ever made on this side of the Atlantic, but also as showing certain peculiarities manifested by the disease as it occurs in this country. Since then forty additional cases have been reported in the same journal for March 27, 1875, by Dr. Chas. K. Mills.

The present collection embraces fifty new cases, to which, for more extended study, I shall add those previously reported. The majority of the cases were obtained as before from the case-books of the Infirmary for Nervous Diseases; the remainder were under Dr. Weir Mitchell's private care, the notes of which he kindly gave me, or were seen by me during my terms of service at the Children's Hospital.

In studying the eighty cases in regard to the *age* and *sex* of the patients, I find that there were—

Under 10 years of age	28 cases	9 males	19 females
From 10 to 21 "	52 "	18 "	34 "
Total	80 "	27 "	53 "

The preponderance of the females over the males shown by this summary agrees with the usual clinical experience, and may be explained by the greater liability of the former to disturbance of a nervous kind, and to their greater susceptibility, particularly during the age of puberty, represented by the second period of the foregoing table, to one of the great exciting causes of chorea, viz., fright.

Side affected.—In twenty-seven cases the choreic movements were found to be general; in eleven to be general, but chiefly marked upon the right side, and in ten to be general, but better pronounced upon the left side. In thirty-two cases the affection was absolutely unilateral, being confined in twenty instances to the right side, and in twelve to the left.

The reports on chorea published at different times have varied greatly in regard to this point, but I am inclined to think that the more modern statistical accounts all point to the right side of the body as being the side especially liable to be affected. The present table agrees with the opinions expressed by such high authorities as Drs. Hughlings Jackson and James Russell, and it also coincides with the results obtained by me in 1874; but it is directly opposed to the statements of a number of French writers, among whom may be mentioned Rufz, Trousseau, and Sée.

A certain number of cases of chorea beginning unilaterally ultimately become bilateral; but by far the greater number remain so throughout the course of the attack. Another, though a very rare result, is the passage of the disorderly movements from one side of the body to the other; thus, for instance, converting a right-sided chorea into one of the left side.

In regard to the alleged *cause* of the disease, in twenty-two cases out of the whole number none was discovered. In eleven cases it was attributed to fright; to rheumatism without heart disease in eleven cases; to rheumatism with heart disease in seven cases; to heart disease alone in six cases, and in three cases, though no actual exciting cause was found, to a strong hereditary predisposition to chorea.

Out of the twenty remaining cases the disease was ascribed to violent pain in seven instances, and to mental worry and miscellaneous troubles in thirteen.

The relation between chorea and rheumatism, or the rheumatic diathesis, and valvular disease of the heart has given rise to much discussion, and to the advancement of many theories. Dr. Mitchell has frequently at his clinics expressed the opinion that chorea and the rheumatism of childhood are of kindred parentage; in other words, the former is simply another expression of the causes which give rise to the latter, and though he does not deny that the disease is sometimes intimately related to heart disease through embolism, he still believes that the majority of the cases are not at all connected with such a pathological condition. A seemingly strong objection to this view is, that in most of the fatal cases where examinations have been made, vegetations have been found upon the valves of the heart. But in opposition to this it may be urged that possibly the cases associated with vegetations are the ones most likely to end fatally.

The doctrine of embolism as a cause of chorea was first announced by Kirkes, who held that whenever an association between chorea and rheumatism was found to exist, there had been an inflammation of the valves of the heart, and the association was not between chorea and rheumatism, but between chorea and valvular disease of the heart. That is to say, that vegetations formed upon the valves as a result of inflammation, and becoming detached, were washed into the general circulation, causing an irritation of the nerve centres. Dr. Kirkes did not attempt to localize the seat of the lesion, as has since been done by Dr. Hughlings Jackson, who, accepting the theory of embolism, maintains that it is the nerve tissue about the corpus striatum which is rendered unstable by plugging of the smaller branches of the middle cerebral artery. Dr. Jackson also insists upon a distinction being made between instability of nerve tissue and destruction of function; the result of the former being disorderly movements, and of the latter paralysis. This really places chorea on the border-land of paralysis, and the frequent mingling of both conditions unquestionably gives much support to the view.

Season of Year.—In my first paper, I stated that Dr. Mitchell had called attention to the fact that chorea, as it occurs in Philadelphia at least, is much more prevalent in the spring than at other seasons, and the analysis I made forcibly proved the correctness of the observation. Out of the eighty cases which form the basis of the present paper, the attacks occurred in the spring in thirty-nine instances; summer, ten; autumn, seven; winter, twelve; total, sixty-eight. In the twelve remaining cases the point is not mentioned. Thus it will be seen that more than half of the cases in which the point was noted occurred in the spring. It is difficult to offer any explanation for this remarkable preference, unless, as I before suggested, it is due to the enervating weather of the season in question. We all suffer more or less from constitutional depression in the spring, particularly in the early part; indeed the so-called "spring fever" has become with us an almost recognized disorder. I am not aware of any mention having been made of the point as it occurs in connection with chorea in other parts of our country. In Paris, however, according to M. Sée, the disease is most apt to occur in the autumn, the season which, I think, very closely resembles the spring of Philadelphia in point of temperature and tendency to cause enervation. The disposition of chorea to recur in the spring may also be shown. Thus, out of eighty cases previous attacks were noted in twenty-five, and all but seven of these occurred in the spring. Of the twenty-five cases, fourteen had had one previous attack, eight had had two, and in three instances the patients had suffered from three.

The presence of *partial paralysis* was noted in seventeen cases, the loss of power being confined in ten instances to the right side, and to the left in seven. The frequent occurrence of "choreic hemiplegia" is, as I have already said, a strong argument in favour of the view held by Dr. Jackson in regard to the seat of the lesion of the disease, viz., the convolutions about the corpus striatum.

In this connection I shall call attention to remarks made by Dr. Mitchell at his clinics in regard to the motor manifestations of certain choreas. For several years he has pointed out the existence of peculiarities in these manifestations which may be summed up as follows: Usually choreas begin with the exhibition of mere awkwardness of habitual voluntary acts, and this increases until there is also added a new set of movements which in grave cases at last predominate. These are spontaneous meaningless motions, such as we all well know as choreic. In a certain number of the usual vernal cases, as well as in most of the post-paralytic choreas described by Dr. Mitchell, the second group of motor manifestations does not exist at all, or is seen in a minimum amount. That is to say, there is no disorderly movement except during an act of volition, when the amount of disturbance varies. In other words, as in some scleroses the hand when not in willed motion is quiet, but when moved by will trembles. So in these choreas, there may be no spasmodic acts until volitional motions are attempted, when these latter become at once irregular and inco-ordinate.

A third group is also to be found, but it is a smaller one. It is made up of children, who never have very severe chorea, but in whom it is constant and automatic, but ceases whenever a distinct purposive movement is made. Just as in paralysis agitans in its early stage, the tremor vanishes during a volitional movement, to recur when the part comes to a state of passive rest. As might be expected, the two last varieties of chorea are mixed together, so to speak, in variable proportions to form the first and more common class, but not rarely we meet with type cases of the other forms.

Dr. Mitchell has also noticed now and then at his clinics, and more often in private practice, cases of what may be called *painful chorea*. They are unilateral nearly always, and are accompanied with dull aches in the muscles and about the joints. He has never seen in them a distinct unilateral outbreak of joint rheumatism, but still thinks that there is some reason to regard the pains as of rheumatic parentage. Dr. Mitchell has of late had reason to think that some cases of chorea are like the traumatic neuralgias, and certain examples of arthritis liable to be unfavourably affected by the atmospheric changes which herald a storm.

The *treatment* of most of the cases consisted in the administration of arsenic in increasing doses. Beginning with a few drops of Fowler's solution three times a day, it is our custom to increase the quantity by the addition of a drop to each dose on alternate days until a toxic impression is produced. When this occurs the dose is reduced to a few drops and again increased as before. In the more obstinate cases, many of which had resisted all other forms of treatment, the arsenic was pushed to its full toxic limit, that is, until decided puffiness of the face and gastro-intestinal irritation were produced. Fowler's solution was also in a few instances given hypodermically and with excellent results. The only advantage to be derived from this mode of administration is the lessening of the tendency of the drug to cause gastric disturbance—a complication which occasionally becomes an early obstacle to the treatment. We have also found that a much smaller and a less frequently administered dose is required to bring about the desired result of controlling the choreic movements.

Zinc in the form of sulphate was also employed in a number of cases, and with a result almost as good as that following the use of arsenic. Other remedies employed were bromide of iron, gelseminum, eserina, cimicifuga, and bromide of potassium, but of these the bromide of iron was found to be the most efficient. Arsenic, however, is the drug in which we place most reliance. Dr. Mitchell indeed, believing, as I have already stated, that chorea and the rheumatism of childhood are of kindred parentage, has of late been using in rheumatism of the young full doses of arsenic, and even arsenic hypodermically. The results have been promising enough to justify the testing of this means by a larger experience. The rheumatic cases have been given arsenic up to the toxic limit, and until the face became swollen.

The results of treatment of the eighty cases were as follows: Cure in 56 cases; improvement or unknown in 24 cases.

All who have had experience in dispensary practice are aware that many cases fail to return to make a final report, and consequently the results cannot be positively stated. In the present instance, knowing that chorea when properly treated is a very curable disease, it is fair to assume that the majority of the cases marked "improvement or unknown" ultimately recovered.

Art. XV.—*Fibromata of the Skin.* (Fibroma Molluscum, cutis pendula, "Fibro-cellular Tumours.") By De Saussure Ford, A.M., M.D., Professor of Descriptive and Surgical Anatomy in the Medical College of Georgia (Augusta), Medical Department, University of Georgia. (With a wood-cut.)

John T——, negro, æt. 37, of Scriven County, Ga., was sent to the Faculty of the Medical College of Georgia for treatment, by Mr. Scroven, an undergraduate, who writes thus: "At his birth, John T. represents that he was covered with tumours, varying in size from that of a mustard-seed to that of a partridge-egg. For about twenty years his health was good, though the tumours increased as he grew in size. In the succeeding ten years, they increased very rapidly in size, the one attached to the left mammary region attaining the dimensions of 12 inches in length, and 9 inches in circumference, the smaller ones ceasing to grow, but the large one continued its growth until last spring (1875), when it began to increase more rapidly, measuring 24 inches in length and 36 inches in circumference. He then had an attack of severe remittent fever, attended with sharp lancinating pains in the pedicle of the tumour at its attachment to the left mamma. After brisk purgation it decreased one-third in size, and the free use of quinia controlled the remittent, the pain ceasing as the tumour decreased. Remittent attacks recurred three times, but yielded to same treatment as in first attack."

In the presence of the medical students of the Medical College of Georgia, on November 1, 1875, after ether was administered, I proceeded to extirpate the large tumour, pendent from the left mammary region, which then weighed 18 pounds, was 25 inches in length, and 28 inches in circumference.

The écraseur was used, but the instrument breaking, on account of the dense fibrous pedicle, which nature had provided to suspend the enormous mass, being too unyielding, the operation was completed with the scalpel.